

WKRK Camera Survey Report 2017

Somes Bar Integrated Fire Management Project

Orleans Ranger District, Six Rivers National Forest

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INTRODUCTION

The Western Klamath Restoration Partnership (WKRK) is a collaboration between the Karuk Tribe, Mid Klamath Watershed Council, Six Rivers National Forest, Orleans-Somes Bar Area Fire Safe Councils, environmental groups and other stakeholders. WKRK was primarily formed for planning and implementing landscape-level fire and fuels management and ecological restoration projects (Harling and Tripp 2014). The Six Rivers National Forest (SRNF) conducted camera surveys for Pacific fisher (*Pekania pennanti*) and other forest carnivores within the Somes Bar Integrated Fire Management Project (Ti-Bar, Patterson, Rodgers, and Donahue) area on the Ukonom and Orleans Ranger District in the fall of 2017. The 2017 survey was the second year of camera surveys conducted at 12 of the 24 previous camera stations surveyed in 2016. Wildfires in the vicinity of the study location in the late summer and fall of 2017 prevented the surveying of all 24 previous stations due to Forest road closures and lack of access.

METHODS

Study Design

In 2017 the Six Rivers National Forest wildlife crew actively participated in deploying, baiting and monitoring the camera stations within the Somes Bar Integrated Fire Management Project area. In addition we had help monitoring these camera stations from USFWS and the Karuk Tribe. Efforts were made to follow the protocol described in Jessica Stauffer's 2016 WKRK camera report. Stauffer's report discusses how, "the overall design is a before and after control-impact (BACI) study design. Camera surveys were conducted prior to implementation of fuels treatments to determine the pre-treatment status of fishers in each project area (Ti-Bar, Patterson, Rodgers, and Donahue). Post treatment surveys can be conducted more than once in order to provide short- and long-term responses as interest and funding is available. The BACI design also requires that locations where fuels treatment will (impact) and will not (control) occur are included in order to have a direct contrast for assessing the effects, if any, of the fuels treatments. Due to the uncertainty of where fuels treatments will occur in each project area, impact sites occurred in the WKRK project area ≥ 300 m from the edge of the project boundary, and were located in the same stand type, including dominant tree species and seral stage, and same general elevation and macro aspect. The number of survey locations varied by the size of the project area: Donahue Flat (4 locations), Roger's Creek (2 locations), Ti Bar (2 locations), and Patterson (4 locations) (Figure 1)" (Stauffer 2016).

Camera stations were established as close as possible to the UTM's of the previous year's locations within Douglas fir (*Pseudotsuga menziesii*) forests. As per the protocol, they were set in pairs

with one located within the treatment boundaries (T) and one in a control area just outside the boundaries where no treatments are planned to take place (C). Cameras were set in riparian areas and mid-slope forests. Several late seral landscape features important to forest carnivores such as large trees, snags, and down logs were key considerations when placing camera stations. The Marble fire (318 acres) burned into the Rodgers project area (approximately 161 acres) in 2017. This fire, which was considered to be a relatively low intensity fire, can be viewed in the photos from the camera station setup within in the fire footprint (See highlights photos at camera C-1 P).

A total of 12 wildlife camera stations were placed in October of 2017 (Table 1, Figure 1). Two different types of cameras were used including nine StealthCam™ STC-P12 and three Bushnell Trophy Cams™. The StealthCam™ digital cameras shot “bursts” of 6 photos per trigger followed by a 30 second delay. The Bushnell cameras shot “bursts” of 3 photos per trigger, also followed by a 30 second delay. Stations were baited with Gusto™, a commercial scent lure, which was poured onto a small sponge attached to flagging by a binder clip and then hung on a branch or shrub in close proximity to the bait tree. Efforts were made to ensure the sponge would still be in the picture if the camera was triggered. Gusto™ mixed with lanolin was also placed at the base of each bait tree in two locations. Secondly, raw chicken thighs and/or drumsticks wrapped in bailing wire were nailed to the bait tree. Stations were checked every 7 days, bait was replaced and scent lure was reapplied at every visit. Each camera was operational for 28 days (Table 1).

RESULTS

Seven species of forest carnivores were detected in this survey, including Pacific Fisher (*Pekania pennanti*), American black bear (*Ursus americanus*), gray fox (*Urocyon cinereoargenteus*), ringtail (*Bassariscus astutus*), striped skunk (*Mephitis mephitis*), mountain lion (*Puma concolor*), and bobcat (*Lynx rufus*) (Table 2). Pacific fishers were detected at 6 of the 12 cameras (Figure 6). Gray fox were detected at 11 cameras (Figure 7). American black bear were detected at 10 stations (Figure 8). Ring-tailed cat, were detected at 3 cameras (Figure 9). A single mountain lion and a bobcat individual were each detected at the same camera site, Donahue T-1, during the same week (Figure 10). A striped skunk individual was detected on one occasion at Donahue T-1 (Figure 11). Two domestic dogs (*Canis lupus familiaris*) were detected at camera station T-4 P the week after the single fisher detection at this station.

Roosevelt elk (*Cervus canadensis roosevelti*) were detected at 3 stations (Figure 12). Black-tailed deer (*Odocoileus hemionus columbianus*) were detected at 6 stations.

Bird detections included varied thrush (*Ixoreus naevius*) at 3 stations, steller’s jays (*Cyanocitta stelleri*) at one, as well as a single dark-eyed junco (*Junco hyemalis*) and hermit thrush (*Catharus guttatus*) (Table 2).

Rodent species detected included chipmunk species (*Tamias sp.*), Western gray squirrel, (*Sciurus griseus*), Douglas squirrel (*Tamiasciurus douglasii*). Humboldt’s flying squirrel (*Glaucomys oregonensis*) an important prey base species for northern spotted owls (*Strix occidentalis caurina*) were detected at 4 stations (Figure 13). Several very small rodents were detected as well. Due to the small size of these animals, that were most active at night, and the low resolution of the cameras, we were only able to identify the individuals to the genus *Peromyscus*, or if not then as “unknown rodents.”

DISCUSSION

Fisher Detections

In 2017, fisher were detected at three camera stations that did not have detections during the 2016 survey effort. However fisher were also not detected in 2017 at 3 of the same camera stations that had detections in 2016 (Table 3). Of the four focal areas fisher were only detected in Donahue and Patterson (Figure 6).

Fisher were detected 27 times at 6 of 12 camera stations, visits occurring within a single 24 hour period were considered separate detections (Stauffer 2016). It is possible that some of these detections are the same animal visiting multiple cameras, as fisher have large home ranges. It is not possible to distinguish between individuals caught on camera to determine the exact number of fisher detected during this year's survey. Efforts to continue to place hair snare traps along with cameras, as in previous surveys, should be considered in order to determine the actual number of individuals detected.

Other Carnivore Species Detected

Gray fox were detected at the stations most out of any of the forest carnivores detected. They were widely distributed across the project area in all 4 focal areas. Foxes visited five of the same stations where fisher were detected, in some cases only seconds to minutes apart, causing curious interactions between the species to be caught on camera.

Black bear were also widely distributed in 2017 and were detected at 4 of the same cameras as fisher (Figure 8). Some issues arose with bears moving the cameras during the survey period. In some cases the bait tree may have been out of the trigger zone until the crew arrived during the next check. Extra precautions were taken to secure the cameras even further when this occurred. The three cameras that were enclosed in bear boxes had no issues like these throughout the survey period.

The mountain lion and bobcat detections were two days apart at the same camera station (T-1 D) and neither species were detected again at any of the camera stations (Figure 10). A single striped skunk was also detected at camera station T-1 D. This camera resulted in the most species detected at a station with a grand total of 13. The control for this camera had the second highest number coming in at 11 species detected in total (Table 2).

No marten were detected during the 2017 surveys. Marten were detected in the 2016 surveys at two camera stations that did not get surveyed this year. Special attention towards surveying those sites in the future should be considered to determine if marten are still present in the area.

References

Harling, W. and B. Tripp. 2014. Western Klamath Restoration Partnership: A plan for restoring fire adapted landscapes. Unpublished report submitted to: P. Grantham, Forest Supervisor, Klamath National Forest.

Stauffer, J. 2016. Evaluating the Effects of Fuels Reduction Treatments on Fisher Occupancy, Activity, and Movement in the Western Klamath Landscape Restoration Partnership Study Area. Unpublished report submitted to: M. George, Forest Supervisor, Six Rivers National Forest.

Table 1. Camera Stations, Locations, Survey Start – End Dates, and Survey Length.

| Camera Station | Location (UTM) | Survey Dates | Duration (Days) |
|-----------------------|-----------------------|---------------------|------------------------|
| C-1 Donahue | 455043 4584559 | 10/6/2017-11/3/2017 | 28 |
| T-1 Donahue | 456125 4584436 | 10/6/2017-11/3/2017 | 28 |
| C-3 Donahue | 457241 4583359 | 10/6/2017-11/3/2017 | 28 |
| T-3 Donahue | 455946 4582371 | 10/6/2017-11/3/2017 | 28 |
| C-2 Roger's Creek | 460836 4586856 | 10/6/2017-11/3/2017 | 28 |
| T-2 Roger's Creek | 460145 4587608 | 10/6/2017-11/3/2017 | 28 |
| *C-1 Patterson | 458925 4592175 | 10/5/2017-11/2/2017 | 28 |
| T-1 Patterson | 458047 4593047 | 10/5/2017-11/2/2017 | 28 |
| C-4 Patterson | 457524 4595389 | 10/6/2017-11/3/2017 | 28 |
| T-4 Patterson | 456958 4594986 | 10/6/2017-11/3/2017 | 28 |
| C-1 Ti Bar | 457057 4598048 | 10/5/2017-11/2/2017 | 28 |
| T-1 Ti Bar | 456994 4599019 | 10/5/2017-11/2/2017 | 28 |

*Camera located within 2017 Marble fire footprint.

Table 2. Species detected at 2017 WKRP Camera stations.

| Focal Area | Camera Station | Species Detected |
|---------------|----------------|--|
| Donahue Flat | C-1 | PEPE, URCI,URAM,BAAS, VATH, STJA, ODHE, <i>Tamias sp.</i> , SCGR, GLOR, TADO,UNKR, UNK |
| Donahue Flat | T-1 | PEPE, URCI, MEME, PUCO, LYRU, VATH, HETH, DEJU, CECA, SCGR, TADO, GLOR, <i>Peromyscus sp.</i> ,UNKR, UNK |
| Donahue Flat | C-3 | PEPE, URCI, URAM, ODHE, UNK |
| Donahue Flat | T-3 | PEPE, VATH, GLOR, TADO, <i>Peromyscus sp.</i> ,UNKR, UNK |
| Roger's Creek | C-2 | URAM, URCI, BAAS |
| Roger's Creek | T-2 | URCI, URAM, ODHE, TADO,GLOR, UNK |
| Patterson | C-1 | PEPE, URCI, URAM, ODHE, CECA, TADO, UNK |
| Patterson | T-1 | URCI, URAM,ODHE, CECA, UNK |
| Patterson | C-4 | URCI, URAM, BAAS,SCGR, TADO |
| Patterson | T-4 | PEPE, URCI, URAM, DOG |
| Ti Bar | C-1 | URAM, URCI, ODHE |
| Ti Bar | T-1 | URCI,URAM, UNK |

PEPE= Pacific fisher; URCI= Gray fox; URAM= Black bear; BAAS= Ringtail; MEME=Striped skunk; PUCO= Mountain lion; LYRU= Bobcat; VATH= Varied thrush; STJA= Steller's jay; HETH= Hermit thrush; DEJU= Dark-eyed junco; CECA= Roosevelt Elk; ODHE= Black-tailed deer; GLOR= Humboldt's flying squirrel; SCGR= Western gray squirrel; TADO= Douglas squirrel; UNKR= Unknown rodent; UNK=Unknown species.

Table 3. Fisher presence or absence from the 2016 and 2017 WKRP camera stations.

| Focal Area | Camera Station | Fisher detections | |
|---------------|----------------|-------------------|------|
| | | 2016 | 2017 |
| Donahue Flat | C-1 | NO | YES |
| Donahue Flat | T-1 | YES | YES |
| Donahue Flat | C-3 | YES | YES |
| Donahue Flat | T-3 | NO | YES |
| Roger's Creek | C-2 | YES | NO |
| Roger's Creek | T-2 | NO | NO |
| Patterson | C-1 | NO | YES |
| Patterson | T-1 | YES | NO |
| Patterson | C-4 | YES | NO |
| Patterson | T-4 | YES | YES |
| Ti Bar | C-1 | NO | NO |
| Ti Bar | T-1 | NO | NO |

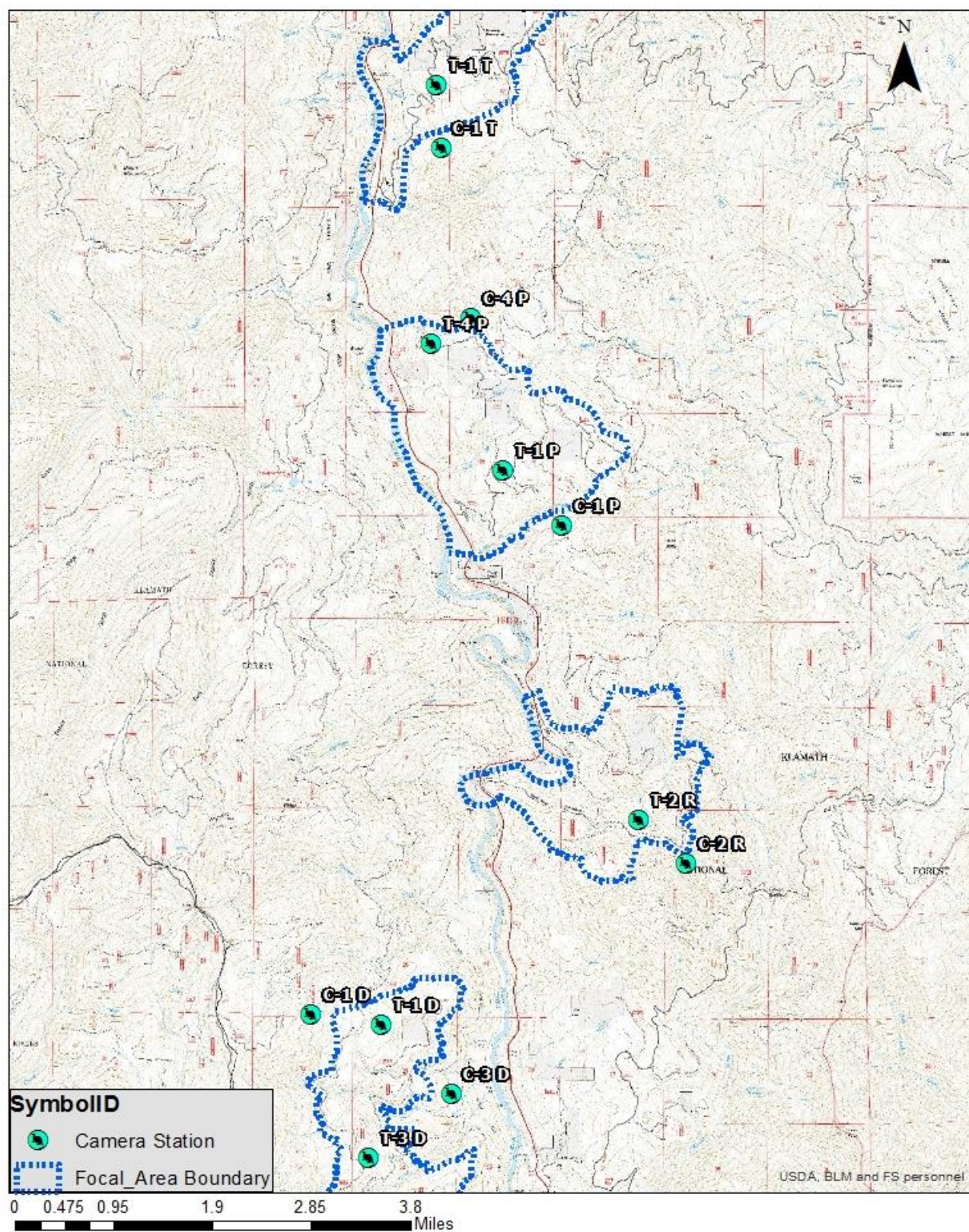


Figure 1. Camera locations in the WGRP project from the 2017 survey (N=12).

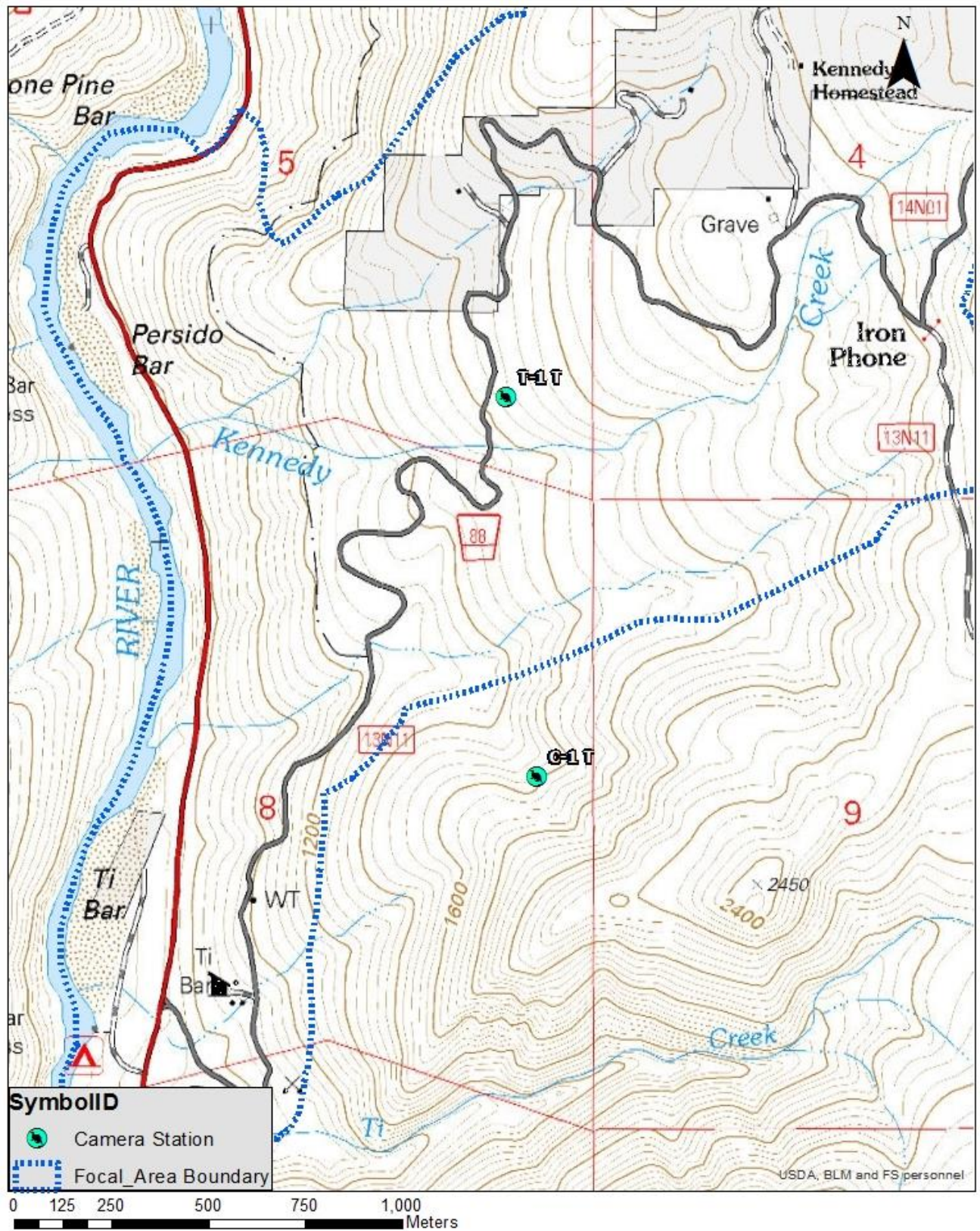


Figure 2. Ti bar focal area camera stations in 2017 (N=2).

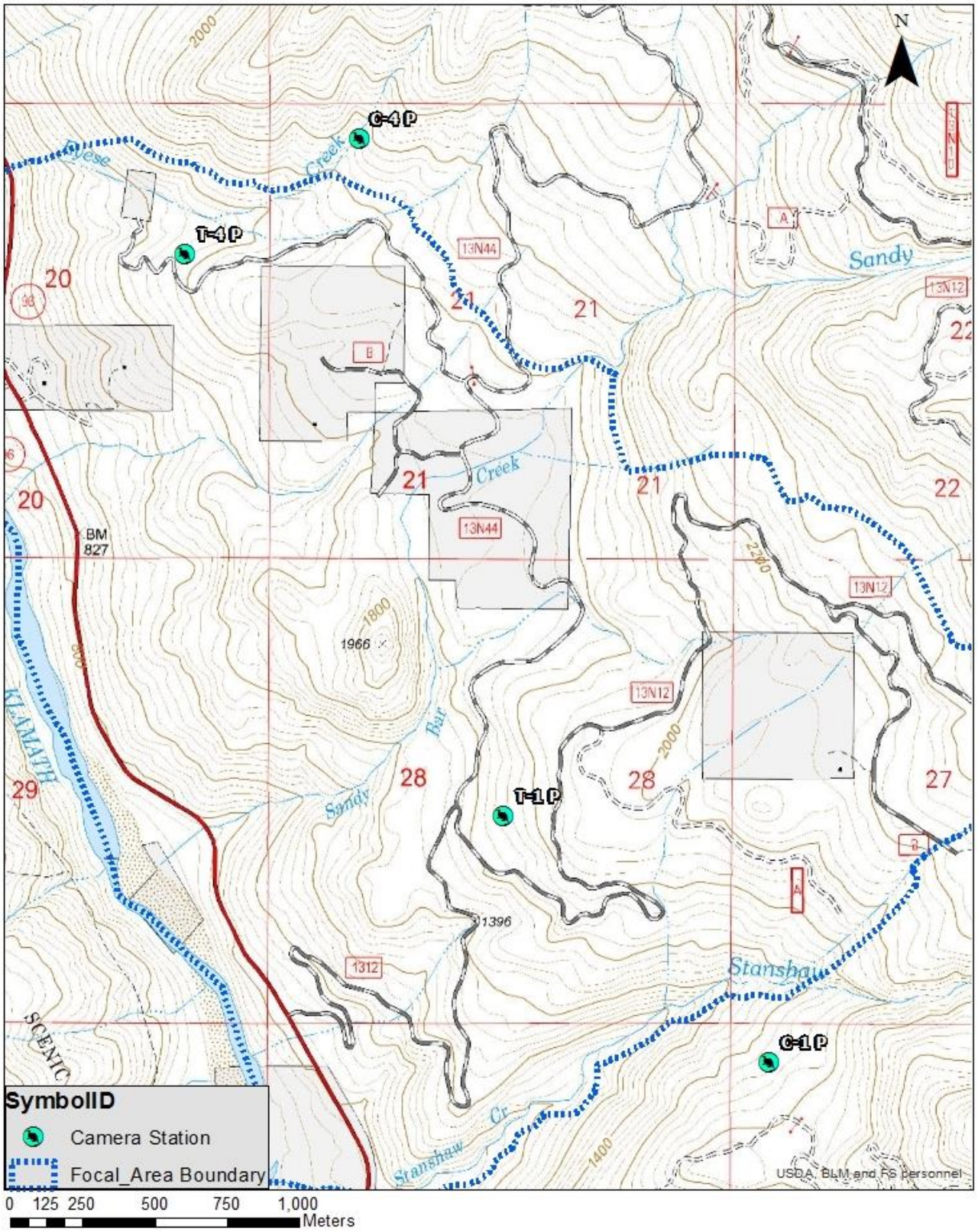


Figure 3. Patterson focal area camera stations in 2017 (N=4).

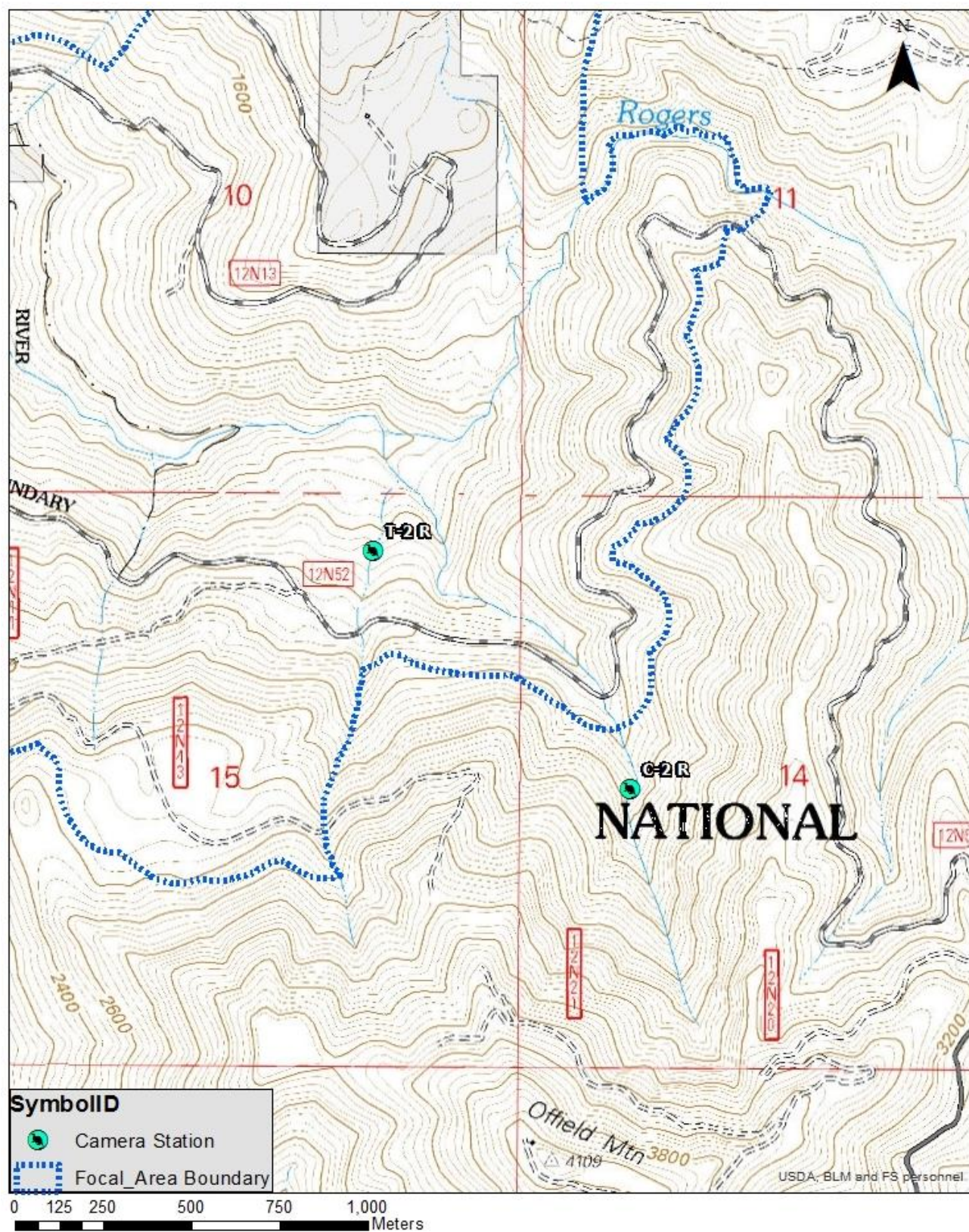


Figure 4. Roger's Creek focal area camera stations in 2017 (N=2).

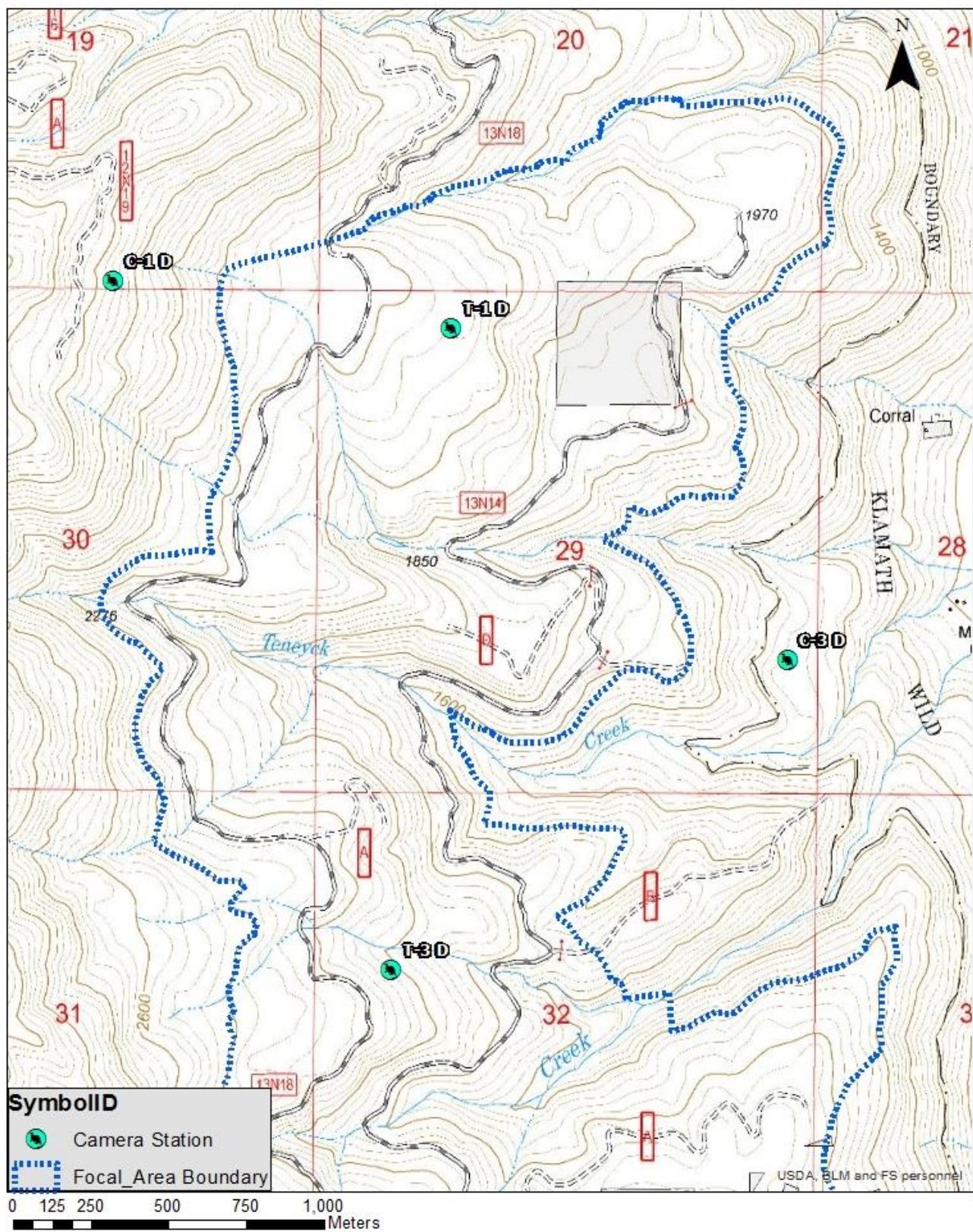


Figure 5. Donahue Flat focal area camera stations in 2017 (N=4).

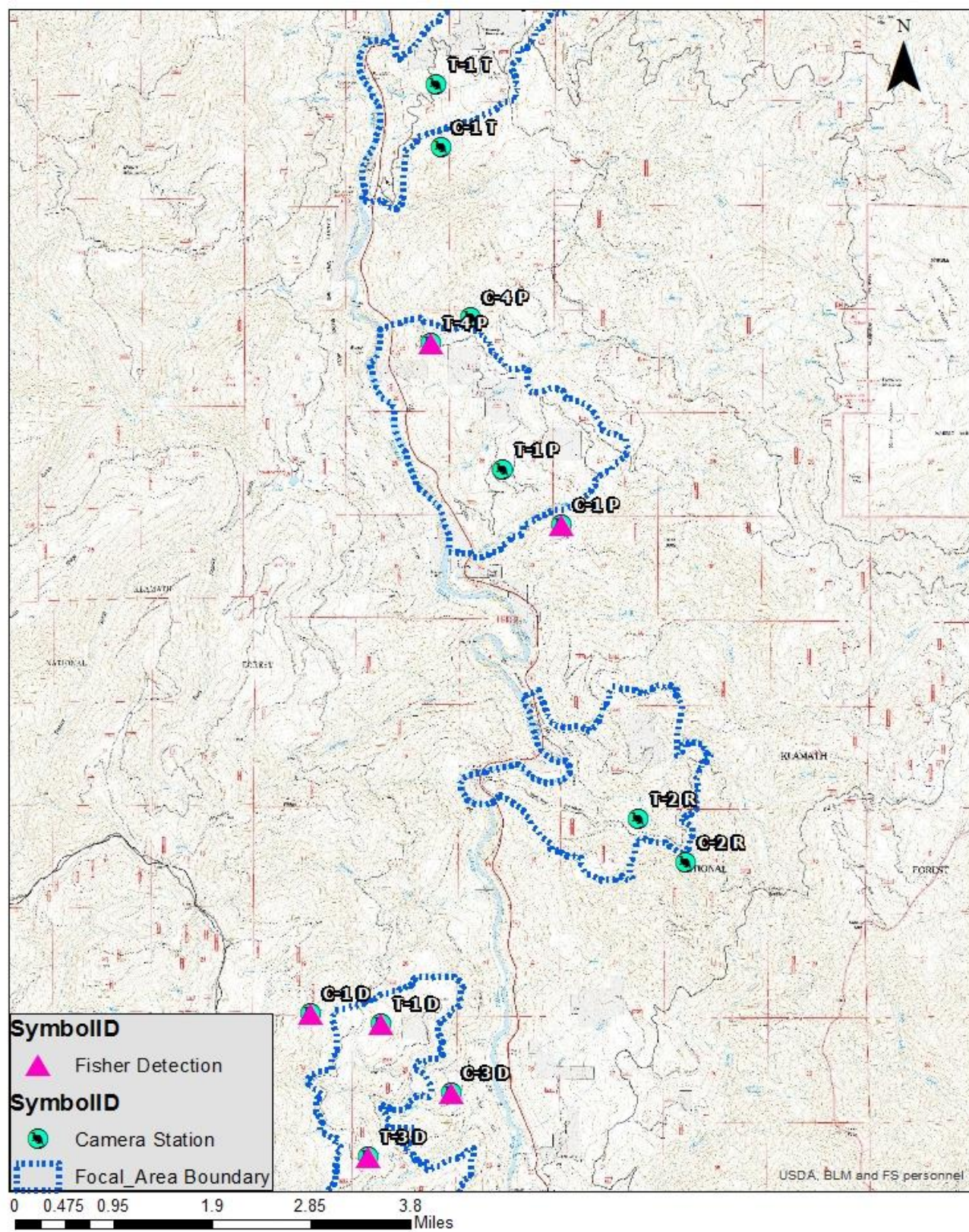


Figure 6. Pacific fisher detections during the 2017 WKRP camera survey.

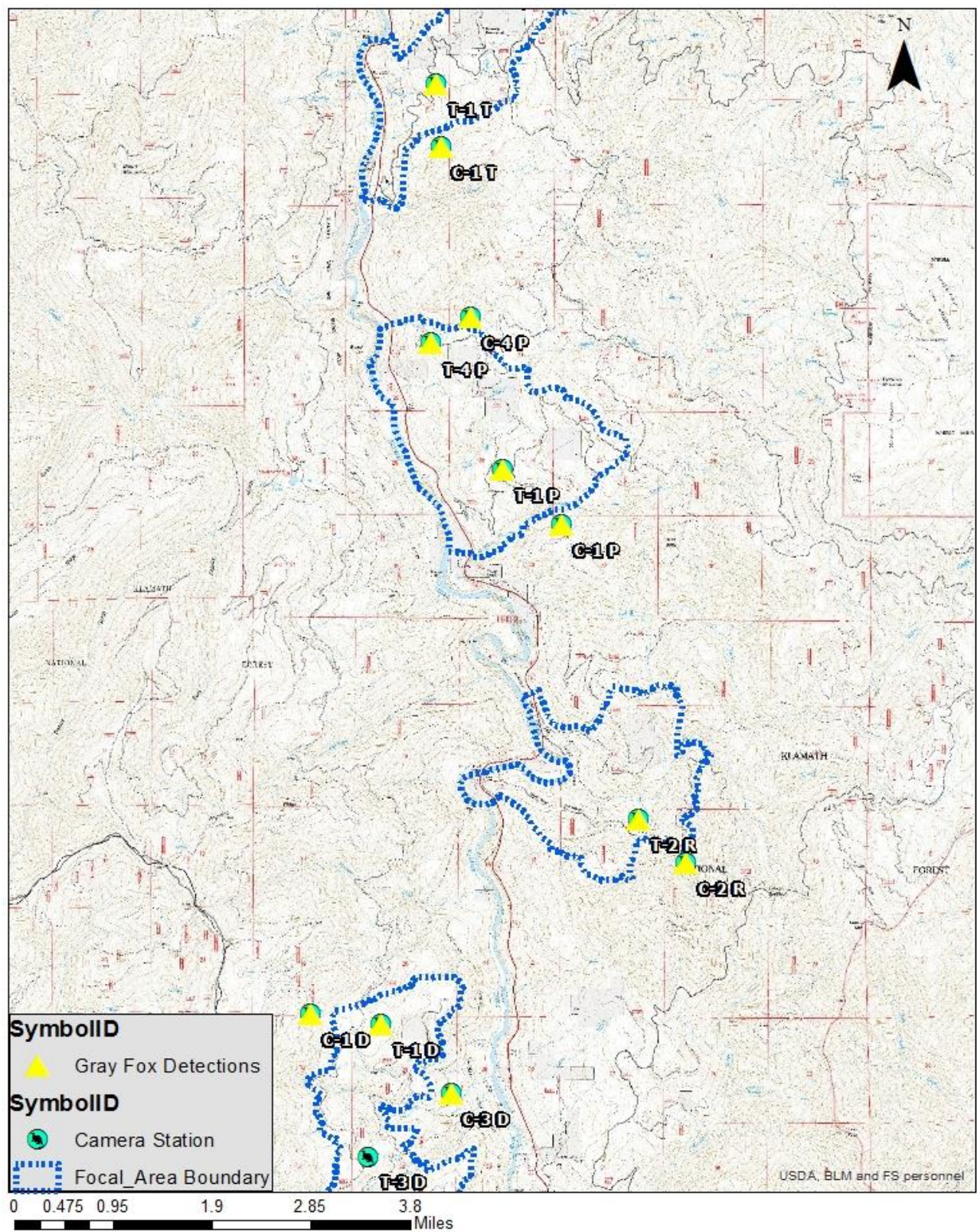


Figure 7. Gray Fox detections during the 2017 WKRP camera survey.

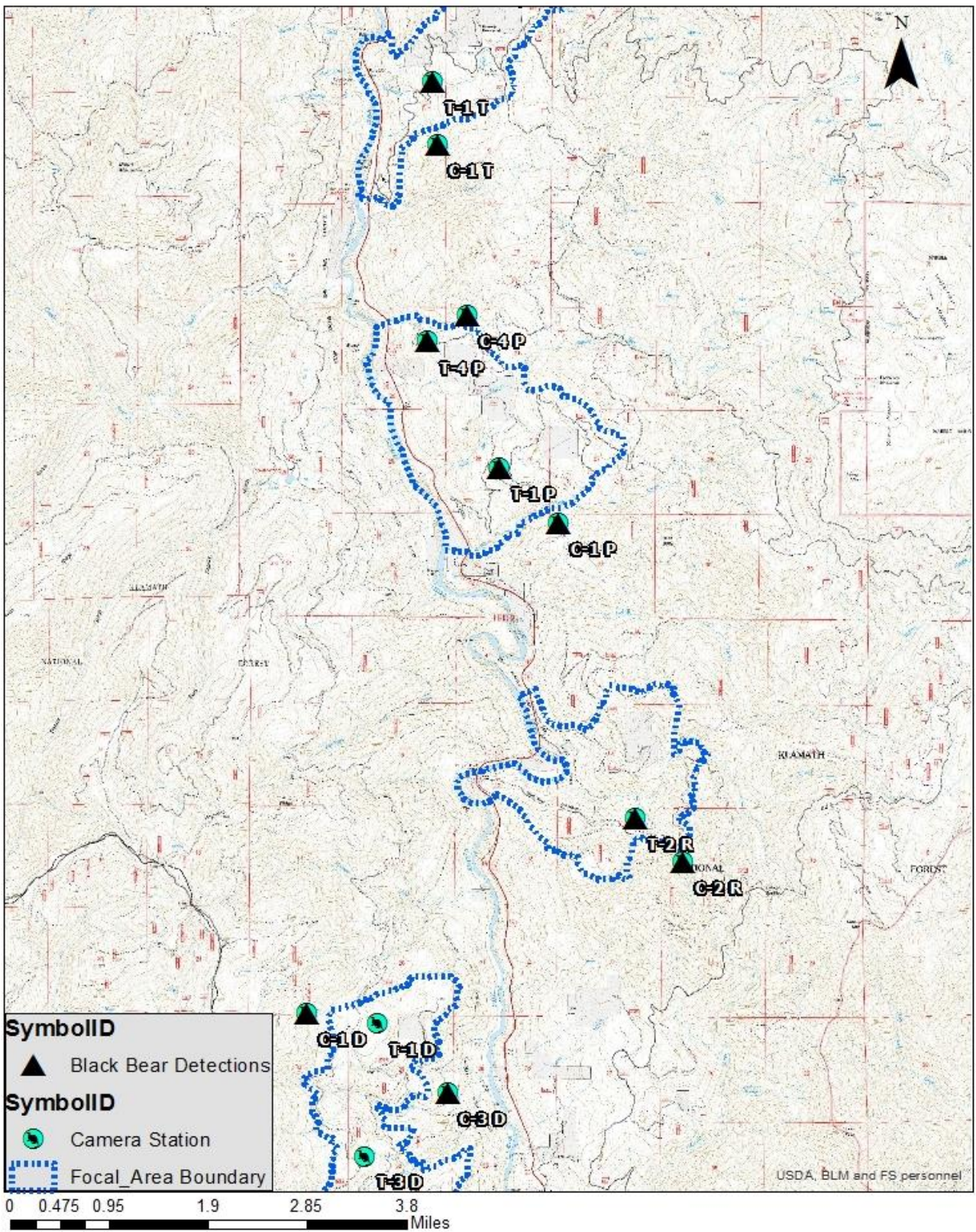


Figure 8. American black Bear detections during the 2017 WKRP camera survey.

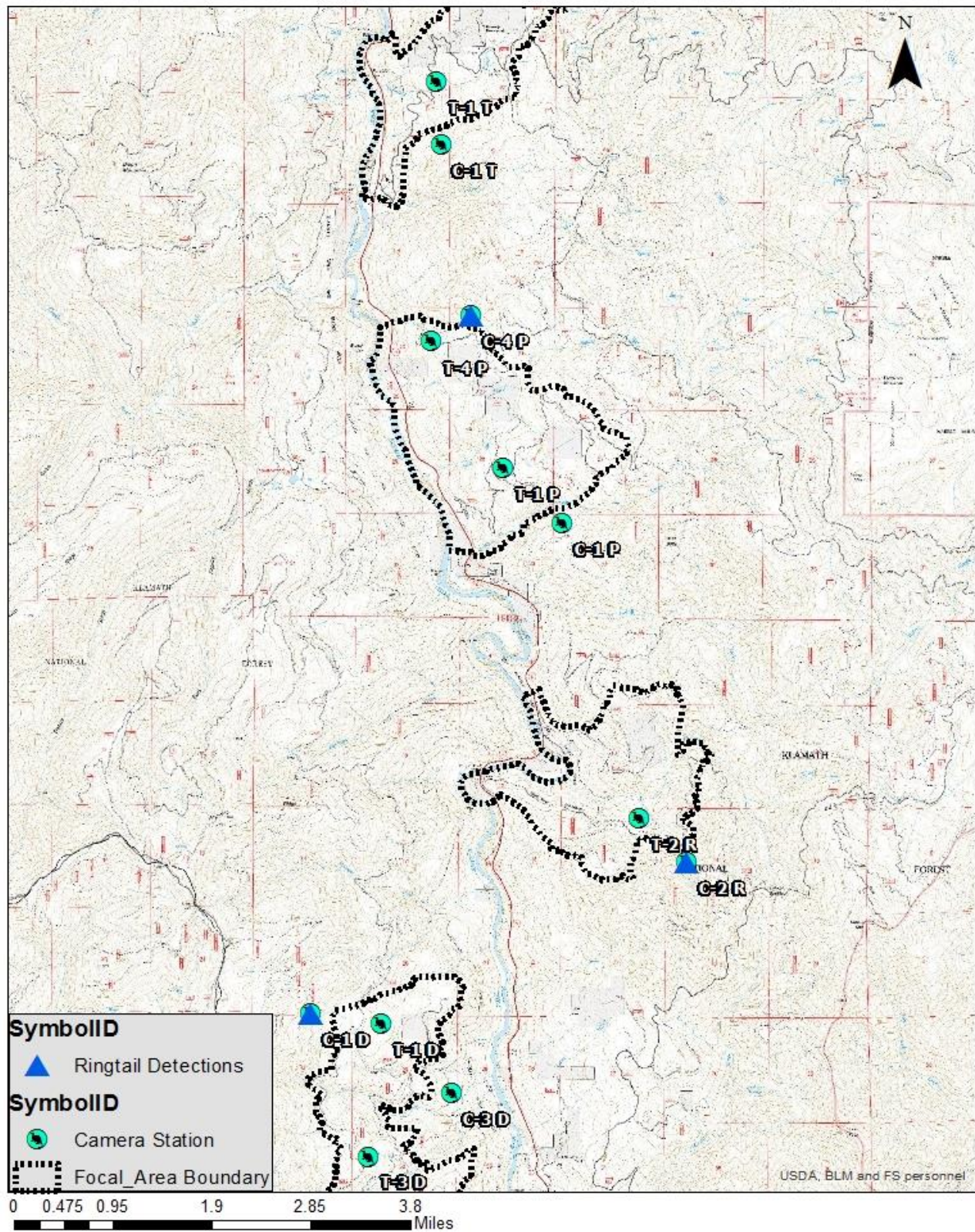


Figure 9. Ringtail detections during the 2017 WKRP camera survey.

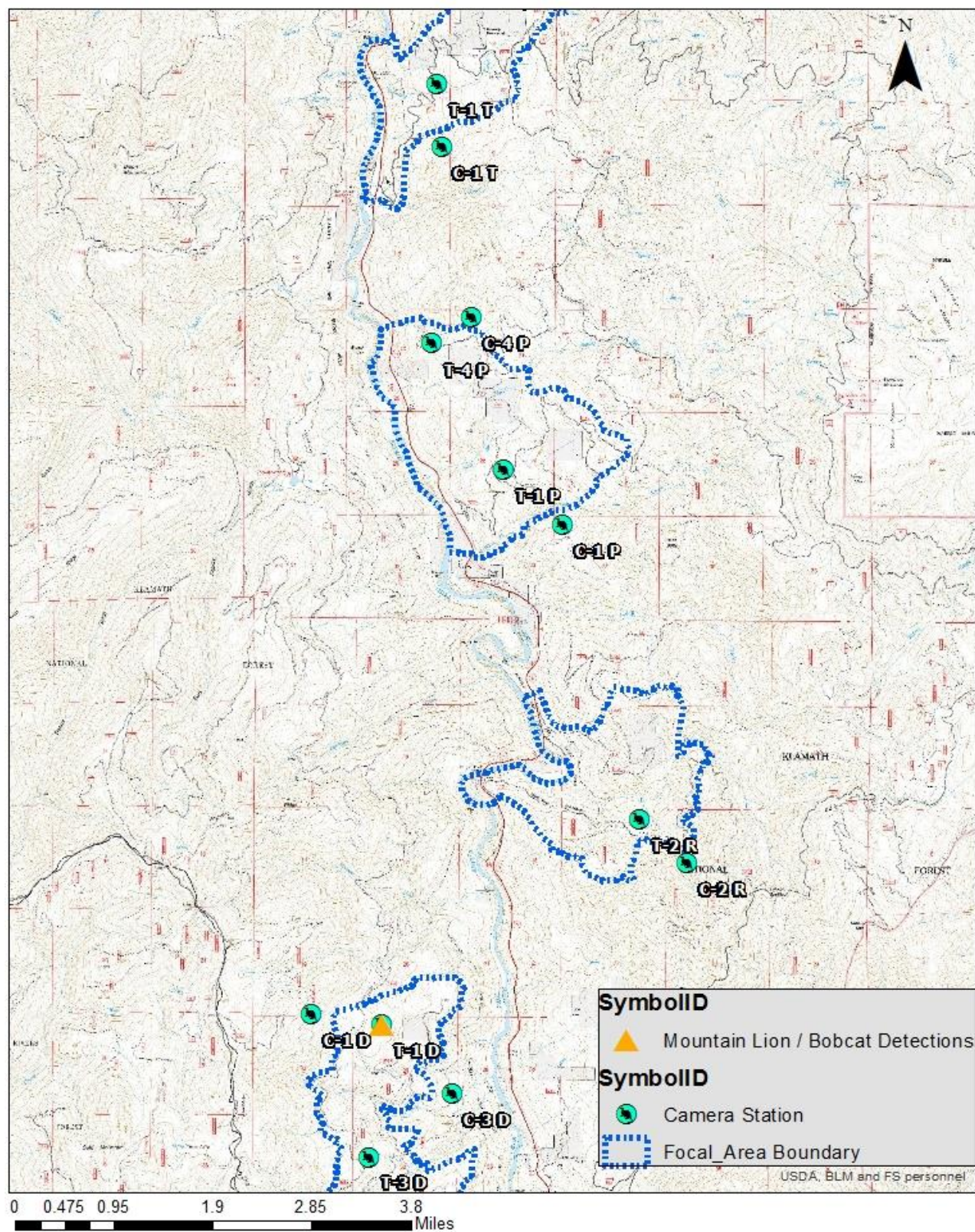


Figure 10. Mountain lion/ Bobcat detection during the 2017 WKRP camera survey.

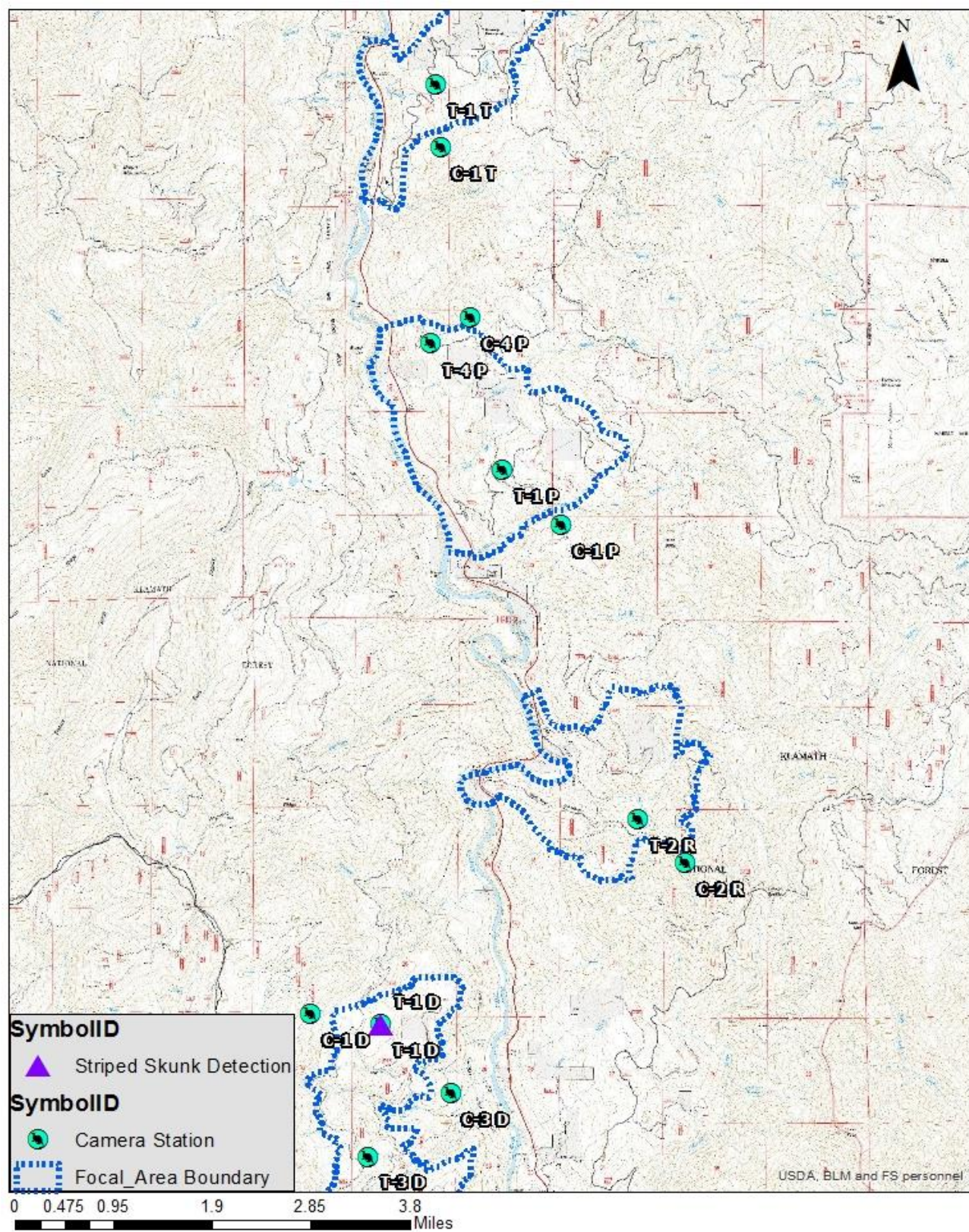


Figure 11. Striped skunk detection during the 2017 WKRP camera survey.

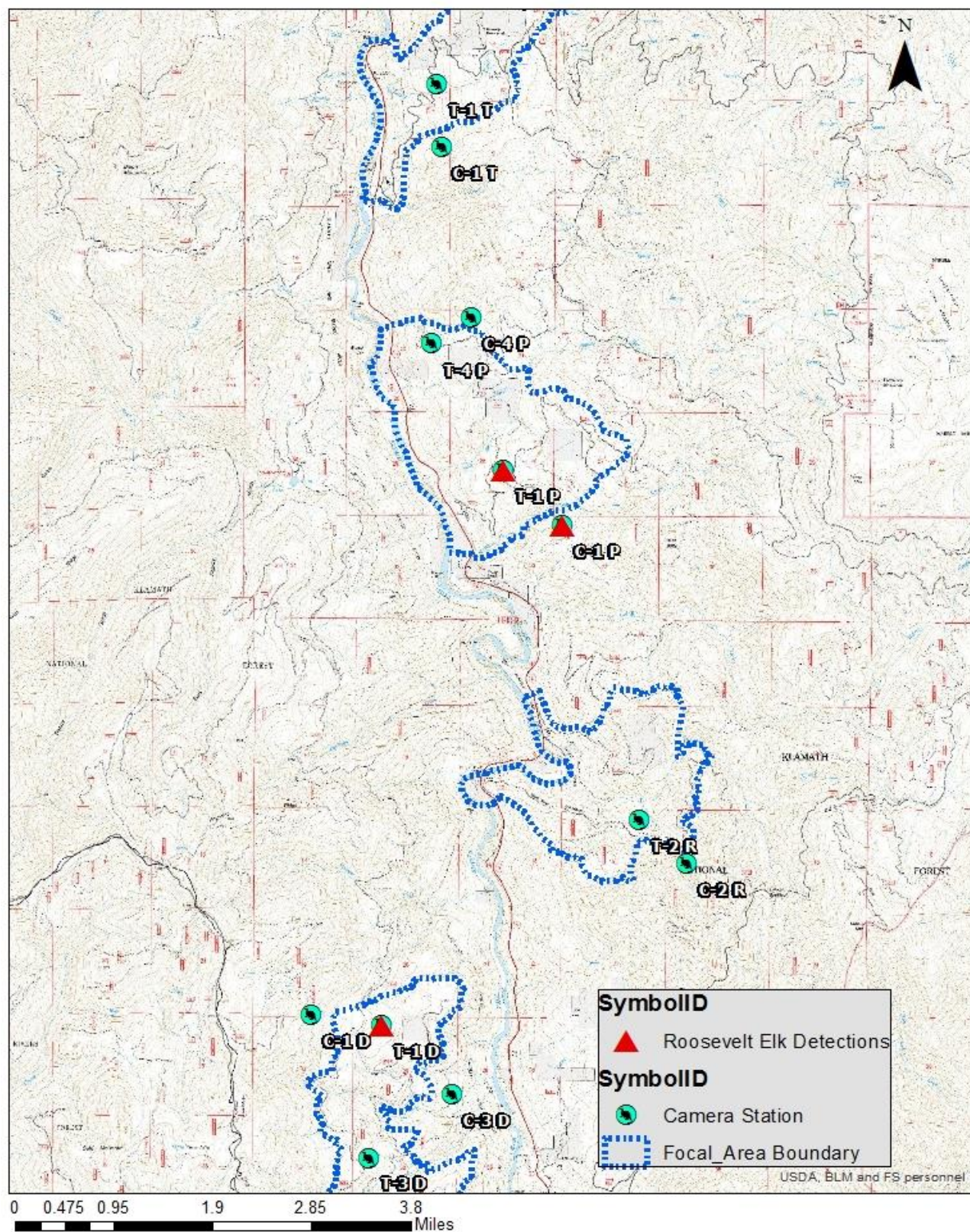


Figure 12. Roosevelt elk detections during the 2017 WKRP camera survey.

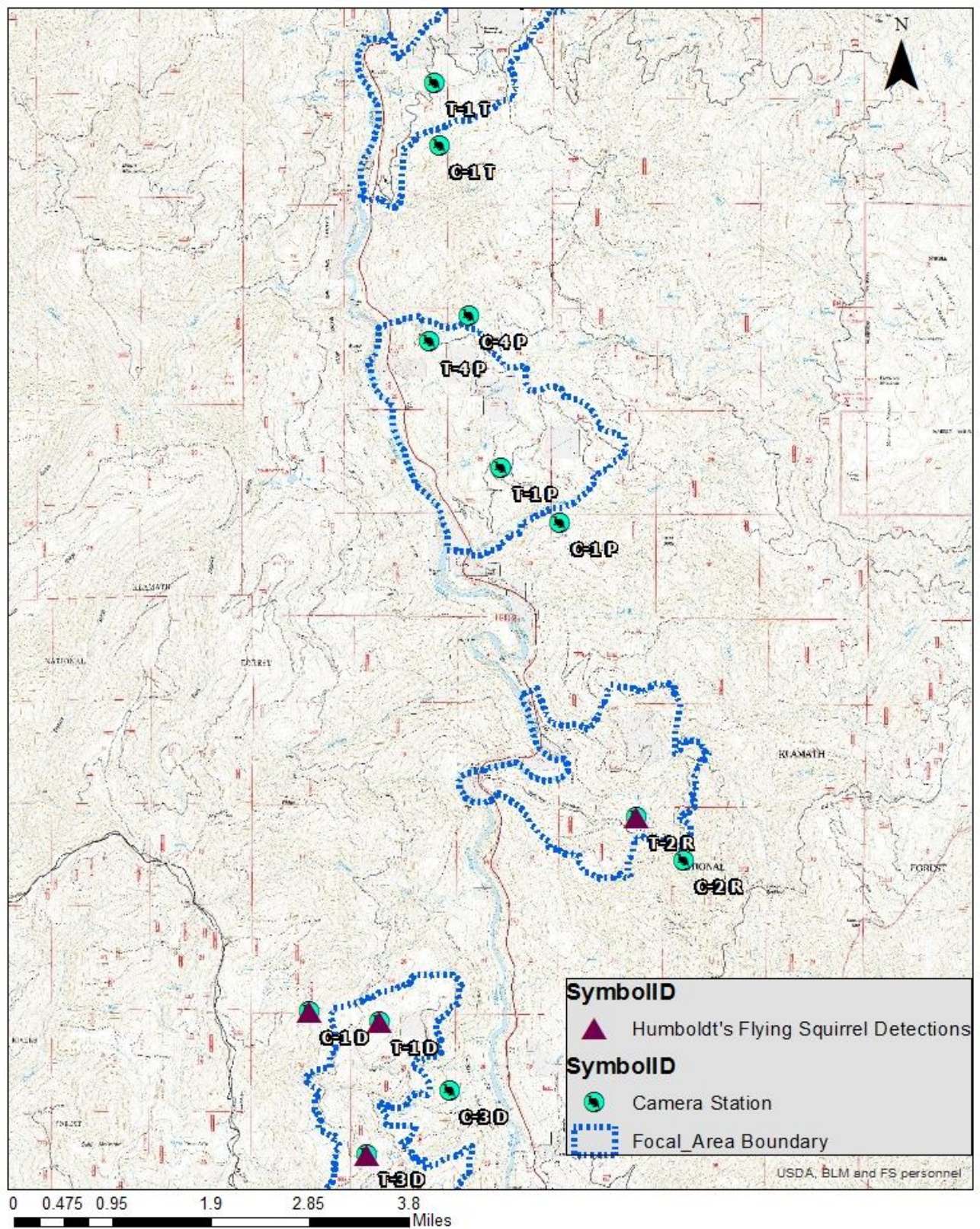


Figure 13. Humboldt's Flying Squirrel detections during the 2017 WKRP camera survey.

2017 WKRP Camera Survey Highlighted Photos
October 5th 2017- November 3rd 2017



Fisher scent-marking bait tree at camera station T-3 in Donahue



Fisher at camera station C-1 Donahue taking bait.



Fisher at camera station T-1 Donahue investigating bait.



Fisher at camera station C-1 Patterson located in Marble fire footprint.



Fisher at camera station C-3 Donahue.



Fisher at camera station T-3 Donahue taking bait.



Mountain lion at camera station T-1 Donahue investigating bait.



Bobcat at camera station T-1 Donahue passing through trigger zone.



Striped skunk at camera station T-1 Donahue investigating scent lure.



Ringtail at camera station C-2 Roger's Creek.



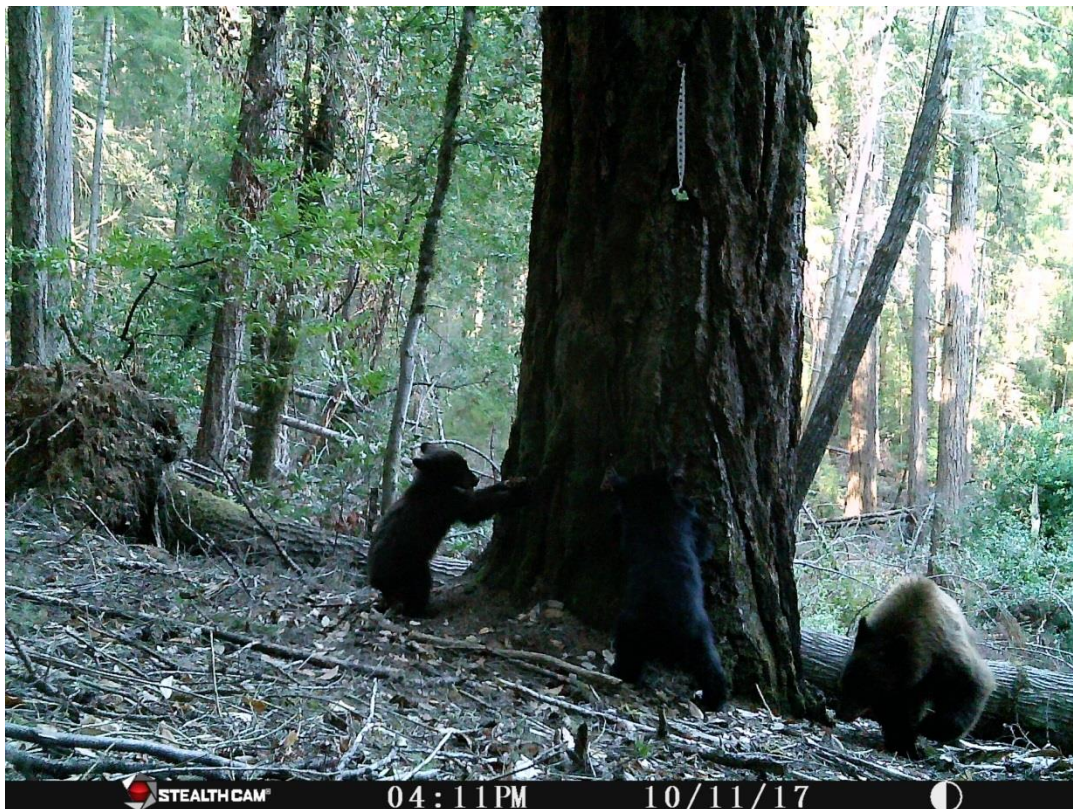
Gray fox at camera station T-1 Ti Bar taking the bait.



Gray fox at camera station T-4 Patterson taking the bait.



Black bear with ear tag at camera station T-4 Patterson



American black bear family at camera station C-3 Donahue.



Roosevelt elk at camera station C-1 Patterson in the Marble fire footprint.



Black-tailed deer buck at camera station T-1 Patterson.



Douglas squirrel at camera station T-2 Roger's Creek.



Humboldt's flying squirrel at camera station T-1 Donahue investigating bait

